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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,953	01/15/2002	William Kress Bodin	AUS920010780US1	4417
45993	7590	08/19/2005	EXAMINER	
IBM CORPORATION (RHF)			BROWN, VERNAL U	
C/O ROBERT H. FRANTZ				
P. O. BOX 23324			ART UNIT	
OKLAHOMA CITY, OK 73123			PAPER NUMBER	
			2635	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/046,953

Applicant(s)

BODIN, WILLIAM KRESS

Examiner

Vernal U. Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/13/2002</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The application of William Bodin for Free-Space Gesture Recognition For Transaction Security And Command Processing filed January 15, 2002 has been examined. Claims 1-27 are pending.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 10-12, 19-21, are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. US Patent 4988981 in view of Pryor US Patent 6750848.

Regarding claims 1 and 19, Zimmerman et al. teaches providing a plurality of gesturing sensors in a two-dimensional arrangement (col. 3 lines 19-30, col. 5 lines 38-40), each sensor being adapted to detect a gesturing instrument within a proximity of a sensor (col. 3 lines 25-30), each sensor having an independent detection event signal (illustrated in figure 1 with each sensor receiving a signal from the gesture instrument); determining a sensor sequence from a series of sensor detection events responsive to movement of a gesturing instrument within the proximity of said plurality of sensors and correlating said sensor sequence to a predetermined sequence in order to decode a command from said user (col. 3 lines 53-64). Zimmerman et al. is however silent on teaching the detected gesture is used to provide signature information. Pryor in an art

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related machine interface invention teaches detecting signature from a free-space gesture (col. 9 lines 4-29) in order to add a confirming degree of authenticity to the signature.

It would have been obvious to one of ordinary skill in the art for the detected free space gesture to provide signature information in Zimmerman et al. as evidenced by Pryor because Zimmerman et al. suggests using a free space gesture to generate command and Pryor teaches detecting signature from a free-space gesture in order to add a confirming degree of authenticity to the signature.

Regarding claims 2 and 20, Zimmerman et al. teaches applying timing analysis to the sensor detection events (col. 3 lines 35-40).

Regarding claims 3 and 21, Zimmerman et al. teaches decoding a command from a gesture (col. 3 lines 53-64) but is silent on teaching the authorized sequence is use in authorizing a financial transaction. Pryor in an art related machine interface invention teaches detecting signature from a free-space gesture (col. 9 lines 4-29) and the detected signature is used to authorized a financial transaction (col. 9 lines 4-10) in order to add a degree of security to the system to ensure the authenticity of the signature.

It would have been obvious to one of ordinary skill in the art for the authorized sequence is use in authorizing a financial transaction in Zimmerman et al. as evidenced by Pryor because Zimmerman et al. suggests decoding a command from a gesture and Pryor teaches detecting signature from a free-space gesture and the detected signature is used to authorized a financial transaction in order to add a degree of security to the system to ensure the authenticity of the signature.

Regarding claim 10-11, Zimmerman et al. teaches providing a plurality of gesturing sensors in a two-dimensional arrangement (col. 3 lines 19-30, col. 5 lines 38-40), each sensor being adapted to detect a gesturing instrument within a proximity of a sensor (col. 3 lines 25-30), each sensor having an independent detection event signal (illustrated in figure 1 with each sensor receiving a signal from the gesture instrument); determining a sensor sequence from a series of sensor detection events responsive to movement of a gesturing instrument within the proximity of said plurality of sensors and correlating said sensor sequence to a predetermined sequence in order to decode a command from said user (col. 3 lines 53-64). Zimmerman et al. teaches the use of software to convert the time delay into coordinate (col. 3 lines 43-45) and the software inherently include a computer readable medium. Zimmerman et al. is however silent on teaching the detected gesture is used to provide signature information. Pryor in an art related machine interface invention teaches detecting signature from a free-space gesture (col. 9 lines 4-29) in order to add a confirming degree of authenticity to the signature.

It would have been obvious to one of ordinary skill in the art for the detected free space gesture to provide signature information in Zimmerman et al. as evidenced by Pryor because Zimmerman et al. suggests using a free space gesture to generate command and Pryor teaches detecting signature from a free-space gesture in order to add a confirming degree of authenticity to the signature.

Regarding claim 12, Zimmerman et al. teaches decoding a command from a gesture (col. 3 lines 53-64) but is silent on teaching the authorized sequence is use in authorizing a financial transaction. Pryor in an art related machine interface invention teaches detecting signature from a free-space gesture (col. 9 lines 4-29) and the detected signature is used to authorized a financial

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transaction (col. 9 lines 4-10) and the process for correlating the sequence is software control (col. 11 lines 58-61). One skilled in the art recognizes that software is inherently stored on a computer readable medium.

It would have been obvious to one of ordinary skill in the art for the authorized sequence is use in authorizing a financial transaction in Zimmerman et al. as evidenced by Pryor because Zimmerman et al. suggests decoding a command from a gesture and Pryor teaches detecting signature from a free-space gesture and the detected signature is used to authorized a financial transaction in order to add a degree of security to the system to ensure the authenticity of the signature.

Claim 4-6, 13-15, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. US Patent 4988981 in view of Pryor US Patent 6750848 and further in view of Kanevsky et al. US Patent 6421453.

Regarding claims 4-6, 13-15, and 22-24, Zimmerman et al. in view of Pryor teaches decoding a command from a gesture (US Patent 4988981, col. 3 lines 53-64) but is silent on teaching the gesture sequence is used to authorize a physical security action and the physical security action comprises unlocking a door. Kanevsky et al. in an art related behavioral password invention teaches gesture sequence is used to authorize a physical security action and the physical security action comprises unlocking a door (col. 28 lines 17-23) for the generation of control signal without any physical contact. One skilled in the art further recognizes that the unlocking of a door allow a person to transport an item from a secured area. Kanevsky et al.

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further teaches the system is incorporated into a personal computer (col. 31 lines 38-46) that therefore inherently includes a computer readable medium.

It would have been obvious to one of ordinary skill in the art to have a sequence is used to authorize a physical security action and the physical security action comprises unlocking a door in Zimmerman et al. in view of Pryor as evidenced by Kanevsky et al. because Zimmerman et al. in view of Pryor suggests decoding a command from a gesture and Kanevsky et al. teaches gesture sequence is used to authorize a physical security action and the physical security action comprises unlocking a door for the generation of control signal without any physical contact.

Claim 7, 16, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. US Patent 4988981 in view of Pryor US Patent 6750848 and further in view of Grabau US Patent 6634560.

Regarding claims 7, 16, and 25, Zimmerman et al. in view of Pryor teaches the use of sensors to detect move of the gesturing instrument (glove) (col. 3 lines 35-38) but is silent on teaching the use of RFID sensors to detect the gesture device. Grabau in an art related identification system teaches the use of RFID sensors to detect a gesturing device (stylus) (col. 2 line 62-col. 20) for providing means of exchanging information Grabau also teaches a computer readable medium 18 in communication with the processor (figure 5) and the processor inherently include software for controlling the circuitry operation of the RFID devices.

It would have been obvious to one of ordinary skill in the art to use RFID sensors to detect the gesture device in Zimmerman et al. in view of Pryor as evidenced by Grabau because Zimmerman et al. in view of Pryor suggests the use of sensors to detect move of the gesturing

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instrument and Grabau teaches the use of RFID sensors to detect a gesturing device (stylus) for providing a means of exchanging information. Grabau also teaches a computer readable medium 18 in communication with the processor and the processor inherently include software for controlling the circuitry operation of the RFID devices.

Claims 8, 17, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. US Patent 4988981 in view of Pryor US Patent 6750848 in view of Hiroaki US Patent 6661425 and further in view of Lawrence US Patent 3580058.

Regarding claim 8, 17, and 26, Zimmerman et al. in view of Pryor teaches the use of ultrasonic sensors to detect move of the gesturing instrument (glove) (col. 3 lines 35-38) and teaches the use of software to convert the time delay into coordinate (col. 3 lines 43-45) and the software inherently include a computer readable medium. Zimmerman et al. is silent on teaching the use of an array of acoustic sensors to detect the gesturing instrument. Hiroaki in an art related sensor system teaches the use of acoustic sensors to detect gestures (col. 17 lines 29-33). The Use of acoustic sensors therefore provides an alternative to the use of ultrasonic sensors. Lawrence in an art related sensor system teaches arranging acoustic sensors to produce acoustic mismatches for generating reflective pulses (col.1 lines 43-50) for indicating the acoustic characteristic of the sensors.

It would have been obvious to one of ordinary skill in the art to have an array of acoustic sensors to detect the gesturing instrument in Zimmerman et al. in view of Pryor as evidenced by

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Hiroaki in view of Lawrence because Zimmerman et al. in view of Pryor suggests the use of ultrasonic sensors to detect move of the gesturing instrument and Hiroaki in view of Lawrence teaches the use of reflective acoustic sensors to detect gestures. The Use of acoustic sensors therefore provides an alternative to the use of ultrasonic sensors.

Claims 9, 18, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. US Patent 4988981 in view of Pryor US Patent 6750848 and further in view Fleck et al. US Patent 6556190.

Regarding claims 9, 18, and 27, Zimmerman et al. in view of Pryor teaches the use of ultrasonic sensors to detect move of the gesturing instrument (glove) (col. 3 lines 35-38) and teaches the use of software to convert the time delay into coordinate (col. 3 lines 43-45) and the software inherently include a computer readable medium. Zimmerman et al. is silent on teaching providing an array of infrared (IR) sensors adapted to detect movement of gesturing instrument that are distinguishable by heat. Fleck et al. in an art related coordinate input device teaches the use of IR sensors that are distinguishable by heat (col. 7 lines 59-64) and therefore provides an alternating detecting means to the ultrasonic sensors.

It would have been obvious to one of ordinary skill in the art to provide an array of infrared (IR) sensors adapted to detect movement of gesturing instrument which are distinguishable by heat in Zimmerman et al. in view of Pryor teaches the use of ultrasonic sensors to detect move of the gesturing instrument and Fleck et al. teaches the use of (IR) sensors adapted to detect movement of gesturing instrument which are distinguishable by heat as an alternative detecting means to the sensors as taught by Zimmerman et al.

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*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vernal U. Brown whose telephone number is 571-272-3060. The examiner can normally be reached on 8:30-7:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 571-272-3068. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Vernal Brown  
August 17, 2005

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